

# Integration of Plant Health planning into the new Scottish Biodiversity Strategy

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## Introduction

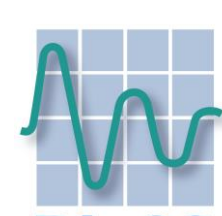
New and emerging diseases are now one of the largest threats to plant biodiversity. To allow policy makers to engage with them, our project identifies threats to Scottish biodiversity assets (SBA).

Known threats are characterised by the UK Plant Health Risk Register (PRR). These were linked to SBA by matching PRR hosts to Scottish native or naturalised genera, tabulated, and mapped by plant distribution data.

Yet-unknown threats are addressed in ongoing work. Expert opinion on key risk factors for species and communities will be collected via pairwise rankings, and compiled to a scoring system that can be used for conservation planning.

## Acknowledgements

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## Objectives

- Review the risk to Scottish plant biodiversity from known pests
- Map known threats to the Scottish landscape
- Identify key characteristics signifying plant health risk to species and communities
- Develop and demonstrate a risk ranking system for known and unknown threats

## Project outcomes

- Plant Health risk Register (PRR) pests were filtered to exclude those with low expected impact, and to include only those with hosts native or naturalised in Scotland, leaving 1177 pests on 118 genera.

	Genus	PRR Pests	Present in UK	Bacteria	Fungi	Insects	Nematodes	Oomycetes	Viruses	Other
Top 5 most threats to genera (native or naturalised) in the Scottish natural environment	<i>Solanum</i>	161	26	10	9	79	19	1	39	4
	<i>Pinus</i>	81	9	0	24	44	5	2	0	6
	<i>Prunus</i>	79	12	3	2	48	9	0	8	9
	<i>Malus</i>	51	2	0	7	35	5	1	1	2
	<i>Picea</i>	40	8	0	7	29	3	0	0	1
Top 5 most threats to Scottish genera represented in Biodiversity Action Plan (BAP) priority species, 2007	<i>Salix</i>	21	2	1	0	20	0	0	0	0
	<i>Juniperus</i>	10	2	0	5	3	1	1	0	0
	<i>Sorbus</i>	6	1	0	3	2	0	0	1	0
	<i>Artemisia</i>	3	1	1	0	1	0	1	0	0
	<i>Poa</i>	2	0	1	0	0	1	0	0	0

Fig 1. Pest Risk Register threats to Scottish plants

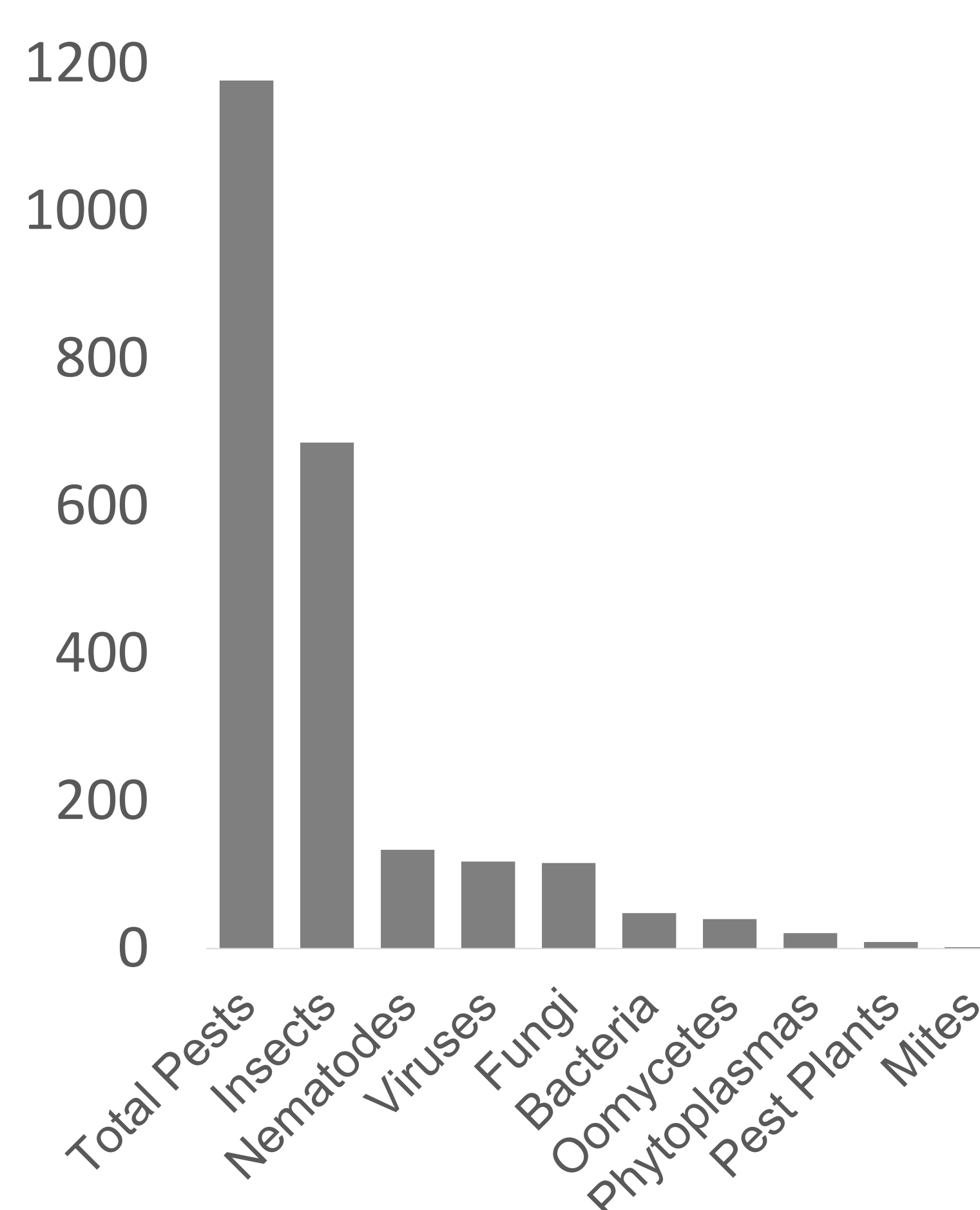
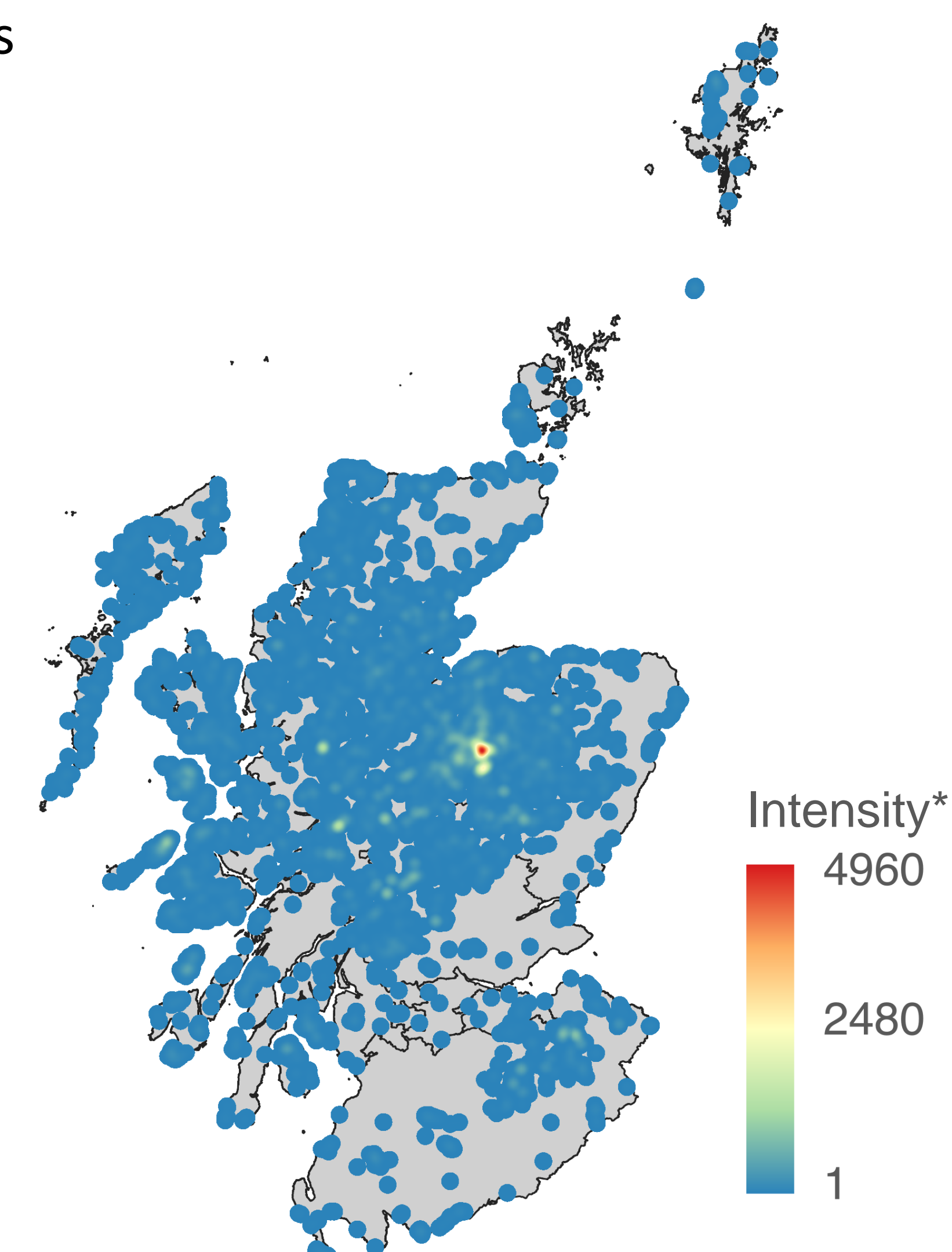


Figure 2. Spatial distribution of number of PRR pests to potential BAP (2007) priority species hosts



\*PRR pests x host presence, over 5000 m radius circle

## Key messages

- 118 plant genera important to Scottish biodiversity are host to at least 1177 known, high-impact potential pest threats.
- The greatest known threats are to plant genera that are also used commercially. This is likely a combination of increased scrutiny and greater opportunity for pest evolution and introduction.
- Insects comprise the greatest proportion of known pest threats.
- 18 BAP priority species are potential hosts to PRR pests. These are across Scotland, with small regions of high intensity of potential pests.
- Yet-unknown threats may provide an even greater risk to natural assets. A risk ranking system will allow plant health planning to address both known and unknown plant health threats to species and communities.